

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-20 (Canceled).

Claim 21 (New): A method for producing an osteoclast precursor cell, which comprises:

culturing a hematopoietic stem cell-derived cell obtained from peripheral blood or joint fluid in an essential medium for mammalian cells, optionally with added serum, in the absence of any additional cytokine(s) for at least 1 to 3 weeks to obtain an osteoclast precursor cell.

Claim 22 (New): The method of Claim 21, wherein said essential medium for mammalian cells contains serum.

Claim 23 (New): The method of Claim 21, wherein the hematopoietic stem cell-derived cell is obtained from the mononuclear fraction of peripheral blood.

Claim 24 (New): The method of Claim 21, wherein said hematopoietic stem cell-derived cell is obtained from the cellular fraction of joint fluid.

Claim 25 (New): The method of Claim 21, wherein said hematopoietic stem cell-derived cell is cultured at a temperature ranging from 35 - 37°C in 5 - 7% CO₂-containing air for 1-3 weeks.

Claim 26 (New): An osteoclast precursor cell, which is obtainable by the method of Claim 21.

Claim 27 (New): A method for producing an osteoclast, comprising:
culturing an osteoclast precursor cell in a culture medium in the absence of accessory cells.

Claim 28 (New): The method of Claim 27, wherein said culture medium comprises one or more compound(s) selected from the group consisting of IL-3, IL-7, GM-CSF, eotaxin, eotaxin-2, and eotaxin-3.

Claim 29 (New): The method of Claim 28, wherein said culture medium comprises IL-3.

Claim 30 (New): The method of Claim 28, wherein said culture medium comprises IL-7.

Claim 31 (New): The method of Claim 28, wherein said culture medium comprises GM-CSF.

Claim 32 (New): The method of Claim 28, wherein said culture medium comprises eotaxin.

Claim 33 (New): The method of Claim 28, wherein said culture medium comprises eotaxin 2.

Claim 34 (New): The method of Claim 28, wherein said culture medium comprises eotaxin-3.

Claim 35 (New): The method of Claim 28, wherein said culture medium comprises a culture supernatant of nitrogen-stimulated peripheral blood mononuclear cells.

Claim 36 (New): The method of Claim 28, wherein said culture supernatant comprises a supernatant of phytohemagglutinin-stimulated human peripheral blood mononuclear cells.

Claim 37 (New): An osteoclast, which is obtainable by the method of Claim 27.

Claim 38 (New): A method for screening an agent for treating or preventing a metabolic bone disease, which comprises:

contacting an osteoclast precursor cell isolated by the method of Claim 21, with an agent to be tested, and

measuring the inhibitory activity of said agent on differentiation of the osteoclast precursor into an osteoclast.

Claim 39 (New): A method for screening an agent for treating or preventing a metabolic bone disease, which comprises using the osteoclast precursor cell of Claim 21.

Claim 40 (New): A method for screening an agent for the treatment or prevention of a metabolic bone disease, which comprises:

contacting the osteoclast of Claim 37 with an agent to be tested and measuring inhibitory activity of said agent on the bone resorption activity of said osteoclast.

Claim 41 (New): An agent for treating or preventing a metabolic bone disease which is obtainable by the method of Claim 40.